Failure to Control Hazards

Lawrence Berkeley National Laboratory Lessons Learned

LL-2004-04

Concern Statement: In designing and building an electrical junction box, Lab staff failed to properly control a hazardous energy source. An employee received an electrical shock because of improper hazard controls.

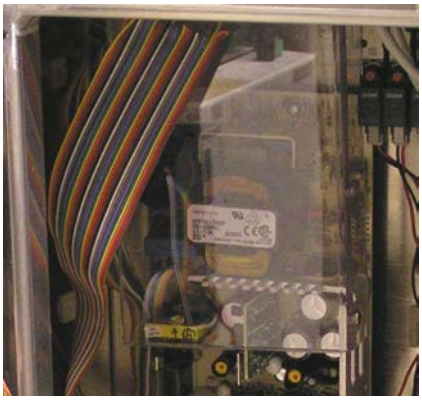
Applicable to: All Lab staff that work with experimental apparatus and equipment that supports experimental apparatus.

Incident: An employee received a shock from an electrical junction box. The box was designed with a hinged cover that, when opened, exposed the electrical equipment inside. With no knowledge of this potential, the employee reached into the junction box to check on some data cables. The employee touched an energized electrical source and received a shock through the hand.

Cause: A Lab designed and built electrical junction box containing hazardous and non-hazardous mixed voltages created a potential shock hazard. During design and installation, Lab staff did not install a rated barrier to prevent exposure to the electrical hazard. This is inadequate in because:

1. The hazard was not properly controlled. The junction box should have been built with engineering controls (a barrier of rated materials).
2. The affected employee could not see a "warning hazard" sticker affixed to the energized electrical source because of the how the junction box and components were fabricated.

Before - Unshielded



After – Shielded with barrier

Recommended Actions

- Lab staff must consider all hazards and implement proper controls. All hazards must be controlled through engineering or administrative controls. Lab staff is not permitted to perform work with uncontrolled hazards present.
- Engineering controls (such as hoods, gloveboxes, and barriers of rated materials) are preferrable to administrative controls (such as procedures and stickers). When practical, employ engineering controls to hazards.
- Due to the nature of Lab work and equipment, staff should continuously assess hazards. Always assume hazards are present and proceed with caution.

Further Information

Any additional assistance or questions regarding this incident or the lessons learned may be directed to Tom Caronna (x4314).

For other lessons learned, go to: http://www.lbl.gov/ehs/html/lessons_learned.htm

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